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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/694,855      | 10/29/2003  | Ki-Man Kim           | 116511-00119        | 6258             |

27557 7590 06/27/2006

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WASHINGTON, DC 20037

EXAMINER

BAHTA, ABRAHAM

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1744

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/694,855

Applicant(s)

KIM ET AL.

Examiner

Abraham Bahta

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 05/26/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: 06/10/04, 02/23/05, 03/29/05, 04/27/05, 06/14/06.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Han (WO/ 0078198).

Han teaches a self-driven automatic cleaner designed to be movable in every direction on a floor under its own power while performing a wet-wiping operation and/or a vacuum cleaning operation the cleaner comprising a controller chamber (1c) programmed to cause the robot cleaner to automatically run along a floor surface to be cleaned and perform a cleaning operation in accordance with preset values, a driving portion (7) (roller chamber 1f and lateral moving unit 25) driven in accordance with a control signal from the control unit (p.12), a dust suction portion for capturing and collecting dust by a suction motor (suction port 2 page 6) and a rotatable wet cloth cleaning unit (cloth 13) firmly wound around a roller (10) detachably secured to the lower surface of the cleaner. See page 5 through page 7.

Claim 2: Han teaches the cleaner comprises a damp cloth (13) and is firmly wound around the roller rotary body (10) wherein the cloth is detachable/attachable by Velcro strips. Han further teaches the cleaner is provided with a roller motor/rotation

driving means (motors 14) having a motor-operated rotor drum/a driving force being integrated with the interior surface of the roller (10) at its external surface.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (USP 6,792,648) in view of Han (WO/0078198).

Lee teaches a vacuum cleaner comprising a pair of rotary members (30) and floor cloths (60) removably attached to the rotary members (30) (col. 3, lines 24-37). The vacuum cleaner further comprises a driving portion which includes a pair of worm gear members (41) that are simultaneously rotated together with a rotation of the bi-directional rotary motor (50), and a pair of worm wheel gears (42) engaged with a the pair of worm gear members (41) and a suction dust portion (12) for drawing in dirt-laden air therethrough. See col. 3, lines 54-60.

Lee does not specifically mention that the cleaner comprises a control unit programmed to cause the cleaner to automatically run along a floor surface. However, as discussed above, Han teaches a self-driven automatic cleaner designed to be movable in every direction on a floor under its own power while performing a wet-wiping operation and/or a vacuum cleaning operation, the cleaner comprising a controller

chamber (1c) programmed to cause the robot cleaner to automatically run along a floor surface to be cleaned and perform a cleaning operation in accordance with preset values, a driving portion (7) (roller chamber 1f and lateral moving unit 25) driven in accordance with a control signal from the control unit (p.12), a dust suction portion for capturing and collecting dust by a suction motor and a rotatable wet cloth cleaning unit (cloth 13) firmly wound around a roller (10) detachably secured to the lower surface of the cleaner. See page 5 through page 7.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a control unit to the cleaner of Lee so that the cleaner may be self-propelled as shown in Han.

As to the limitation that the a rotatable wet cloth is detachably secured to the lower surface of the robot cleaner, Lee teaches rotatable cleaning cloths (60) detachably secured to the lower surface of the cleaner. Han further teaches using a damp cloth (13) in order to remove stubborn dirt.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a wet/damp cloth to the cleaner of Lee so that the wet/damp cloth may clean stubborn dirt such as foreign substances stuck in the floor surface to be cleaned.

Claim 2: Lee teaches the cleaner comprises rotary elements and a rotating driving portion for rotatably driving the rotary elements and floor cloths removably attached to the rotary elements a driving force/worm gears (41) and transmission

gears/worm wheel gears (42). Lee does not require a wet/damp cloth; however, as discussed above Han teaches a self-propelled/driven automatic cleaner comprising rotatable damp/wet cloth wound around a rotatable body/roller.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have employed a wet/damp cloth to the cleaner of Lee so that the wet/damp cloth may clean stubborn dirt such as foreign substances stuck in the floor surface to be cleaned.

Claim 3: As shown in figure 2 of Lee the rotational driving means comprises a bi-directional rotation motor (50) which has a pair of rotational axis protruding from both ends and the driving force transmitting unit comprising a pair of worm gears (41) and a pair of transmission gears/worm wheel gears (42). As shown in figure 3 the worm gear member (41) is engaged with the worm wheel gear (42) and the worm wheel gear (41) has a support.

Claim 4: As shown in figure 7 of Lee the engaging portion of the worm gear (41) has a male thread formed on its outer circumference. See also col. 5, lines 24-47.

Claims 5-6: Lee teaches when the rotary shaft portions (50c) are rotated clockwise on the center of rotation, the threads formed on the connecting portions (41e) and (41e') and the rotary shaft portions (50c) are left-hand threads for screw fastening purpose and when the rotary shaft portions (50c) are rotated counterclockwise on the center of rotation, the threads of the connecting portions (41e and 41e') and the rotary shaft portions (50c) are right-hand threads. (column 5, lines 39-46).

Claim 7: Lee at col. 4, lines 1-6 and figure 7 teaches a support bracket (13) is provided which protrudes from a lower surface of the suction port body (12) and the ends of the rotary shafts of the bi-directional rotary motor (50) are connected with the ends of worm gear members (41) by a pair of joint connecting members (51) disposed there between and that the bracket comprises holes.

Claim 8: Lee teaches the support bracket (13) has a seating hole pierced through to receive the engaging and support portions. See figure 2.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abraham Bahta whose telephone number is (571) 272-1532. The examiner can normally be reached on Monday - Tuesday; 11:30 am - 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



A. Bahta  
06/12/06



GLADYS JP CORCORAN  
SUPERVISORY PATENT EXAMINER